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10/520,898	09/30/2005	Lars Lindvold	55320.000501	4812

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EXAMINER
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CHEN, TIANJIE

ART UNIT	PAPER NUMBER
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2627

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12/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/520,898

Applicant(s)

LINDVOLD ET AL.

Examiner

Tianjie Chen

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7, 8, 11-14, 99-107 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-3 and 7-107 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

***Non-Final Rejection***

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

2. The disclosure is objected to because of the following informalities:
  - Applicant uses “,” as decimal point through whole disclosure and claims, it should be changed to --.--, respectively.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Howe et al (US 5,236,755).

Claim 1, Howe et al shows an optical storage medium in Fig. 1 (Column 4, lines 1-14) including: a main substrate 10, an information surface on 12 being associated

with the main substrate, and at least one compensating layer 18 (Column 4, lines 15-19 and column 5, lines 19-24).

Claim 2, Howe et al shows that the at least one compensating layer 18 is positioned between the information surface on 12 and an outer surface of the medium.

Claim 3, Howe et al shows that the at least one compensating layer 18 changes an amplitude of a propagating electromagnetic wave front according to a first optical transfer function so as to adapt the optical storage medium to be read or recorded by a detector/emitter being pre-set to read or record information at an information surface through a medium changing the amplitude of a propagating wave front according to a predetermined optical transfer function, wherein the first optical transfer function is different from the predetermined optical transfer function in terms the difference in amplitude.

Claim 11, Howe et al shows that the information surface comprises information in digital form.

4. Claim 99 is rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe et al (US 6,501,729).

Claim 99, Watanabe shows use of an optical storage medium having a thickness of less than 1.1 mm in a standard optical playback device (Fig. 1c, column 10, lines 5-10).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12, 100-105, and 107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howe et al in view of Takeda et al (US 6,512,735).

Claim 12, Takeda shows an optical disk, in which the width of track is 80nm (Column 10, lines 19-22), i.e. having a nano-structure. Takeda et al also teaches that such a disk can have high recording density of 15GB (Column 9, lines 59-62). One of ordinary skill in the art would have been motivated to set the width for the track to 80nm for having high recording density. In such constructed device the information surface supports definition of at least a first nano-structure representing information in digital form.

Claim 100, as described above the combination of Howe et al and Takeda et al shows a method of making an optical storage medium including a main substrate, the main substrate including a substantially non-transparent material, the method including the steps of:

- forming an information surface into a surface of the optical storage medium, the information surface supporting definition of a first nano-structure representing information in digital form,

- providing at least one compensating layer being associated with the information surface.

Claim 101, in above constructed device includes the step of forming a first nano-structure into the information surface, the first nano-structure representing information in digital form.

Claim 102, in above constructed device, the information surface is provided on the main substrate.

Claim 103, the above constructed device includes a step of providing at least one additional substrate on the main substrate.

Claim 104, the above constructed device includes the step of forming an information surface into the at least one additional substrate.

Claim 105, Howe et al shows a step of covering at least one information surface with a reflective material in layer 15 (Column 4, lines 8-12).

Claim 107, Howe et al shows a part of the information surface.

A "product by process" claim is directed to the product per se, no matter how actually made, see In re Hirao, 190 USPQ 15 at 17 (footnote 3 CCPC, 5/27/76); In re Brown, 173 USPQ 685 (CCPA 5/18/72); In re Luck, 177 USPQ 523 (CCPA, 4/26/73); In re Fessmann, 180 USPQ 324 (CCPA, 1/10/74); In re Thorpe, 227 USPQ 964 (CAFC, 11/21/85). In current claim "formed by at least one of a rolling process, a stamping process, a thermal process, an etching process, a cutting process, an electroforming process, an electrolytic process, a magnetic molding, molding, extruding, or an electrochemical process" is process related limitation, which gains no weight in determining patentability.

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howe et al in view of Miyamoto et al (US 5,681,634).

Claim 106 is rejected under 35 U.S.C. 103(a) as being unpatentable over Howe et al in view of Takeda et al as applied to claim 100 and further in view of Miyamoto et al (US 5,681,634).

Claim 7, Howe et al does not show an additional substrate. Miyamoto et al shows a disk with an additional substrate and the additional substrate having a first and a second surface.

Miyamoto teaches that the additional substrate would be of help in preventing bending of the disk (Column 1, lines 36-38). One of ordinary skill in the art would have been motivated to add the additional substrate for preventing bending of the disk.

Claim 8, Miyamoto et al shows that the additional substrate is substantially parallel to a plane defined by the main substrate.

Claim 106, Miyamoto shows in Fig. 9 a step of forming a curled edge portion extending from a plane defined by the main substrate and/or the at least one additional substrate.

#### ***Allowable Subject Matter***

7. Claims 4, 5, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

- With regard to claims 4, 13, and 14, as the closest reference of record, Howe et al (US 5,236,755) shows an optical storage medium including: a main substrate, an information surface being associated with the main substrate, and at least one compensating layer, the at least one compensating layer is positioned between the information surface and an outer surface of the medium; **but fails to show** that the compensating layer compensates for the at least first distance being different from a predetermined distance by

optically reducing a spot size of an a light beam incident on the information surface.

- With regard to claim 5, as the closest reference of record, Howe et al (US 5,236,755) shows an optical storage medium including: a main substrate, an information surface being associated with the main substrate, and at least one compensating layer, the at least one compensating layer is positioned between the information surface and an outer surface of the medium; **but fails to show** that the compensating layer compensates for aberrations caused by the at least first distance being different form a predetermined distance.
- Applicant asserts; an "object of the present invention to provide an optical storage medium which comprises compensating means, so that substantially no distortion of the playback signal is observed by the playback device" (Specification, p. 2).

### **Conclusion**


8. The prior art made of record in PTO-892 Form and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**TIANJIE CHEN**  
**PRIMARY EXAMINER**